



FOREST AND SHADE TREE PESTS

Oak Leaf Blister

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SIGNIFICANCE

Each spring Florida homeowners are often alarmed by the appearance of blisters and wrinkles on the leaves of their valuable oak trees. These deformities are symptoms of a disease known as oak leaf blister, caused by the fungus *Taphrina caerulescens*. This disease is found throughout the United States and Europe. In Florida it most commonly occurs on live oaks, water oaks, laurel oaks, and southern red oaks. On healthy trees the effect of oak leaf blister is usually negligible. Although severe cases of the disease can cause defoliation and loss of growth, it rarely if ever kills the host tree.

RECOGNITION

Oak leaf blister results in raised bumps or blisters, usually on the upper surface of the leaf, with a concave reverse side. The blisters vary in size from 1/16 to 1/2 inch in diameter, are circular to irregular in shape, and have sharply defined edges. Several blisters usually appear on the same leaf. Initially, the blisters appear as small yellowish-green chlorotic spots with a grayish underside. As the disease progresses, the blisters enlarge, and affected areas become gray or brown and necrotic. Severely infected leaves may become grossly disfigured, and drop prematurely.



INFECTION BIOLOGY

The fungus forms tiny spore-producing sacs (asci) on the concave side of the newly formed leaf blister. These asci produce spores internally, which, upon release, infect newly emerging leaves. Some spores become lodged in the bud scales or twig bark. Here, the fungus remains dormant until it causes infections on newly emerging leaves the following year. Fully formed and "hardened off" leaves rarely become infected. Therefore, infection typically occurs in the early spring, although the blisters are often visible throughout the year.

Oak leaf blister is especially severe during cool wet weather, and may be almost absent if the spring is warm and dry. The degree of infection on a particular tree may vary greatly from year to year. Genetic variability of both the fungus and host trees may influence the incidence of the disease. Accordingly, it is not uncommon to observe a disease-free tree surrounded by afflicted trees.

CONTROL

Like most foliar diseases, oak leaf blister is primarily a blemish. Unless unusually severe, it will not adversely affect the overall health of the tree. However, in extremely severe cases, or when the host tree is a valuable ornamental, control measures may be warranted. Some experts recommend sanitation practices,

involving raking up and removing fallen leaves, as control measures. Researchers find, however, that sanitation practices alone do not provide adequate control. Studies in other states have shown a wide variety of fungicides effectively control the disease, but their efficacy under Florida conditions is unproven. Timing of spraying is critical. Spray dormant buds in late winter, just before bud break. Spraying following bud break is less effective, and will not help leaves with blisters already present. **WARNING:** As with all pesticides, all appropriate fungicide product labeling regarding application rates, concentrations, safety precautions, etc., must be followed judiciously. This is federal law.

FORESTRY OFFICES

1. Escambia, Santa Rosa, and Okaloosa Counties

Blackwater Forestry Center
11650 Munson Highway
Milton, FL 32570
850/ 957-6140

2. Bay, Calhoun, Gulf, Holmes, Jackson, Walton, and Washington Counties

Chipola Forestry Center
715 West 15 Street
Panama City, FL 32401
850/872-4175

4. Leon, Jefferson, Wakulla, Gadsden, Liberty and Franklin Counties

Tallahassee Forestry Center
865 Geddie Road
Tallahassee, FL 32304
850/ 488-1871

5. Dixie, Lafayette, Madison and Taylor Counties

Perry District Office
618 Plantation Road
Perry, FL 32348
850/ 838-2299

6. Baker, Columbia, Suwannee, Hamilton, Bradford and Union Counties

Suwannee District Office
137 SE Forestry Circle
Lake City, FL 32025
386/ 758-5700

7. Clay, Duval, and Nassau Counties

Jacksonville District
7247 Big Oaks Road
Bryceville, FL 32009
904/ 266-5001

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1600 N.E. 23rd Ave
Gainesville, FL 32609
352/ 955-2005

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5001 US Highway 1, North
Bunnell, FL 32110
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15019 Broad Street
Brooksville, FL 34601-4201
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8431 S. Orange Blossom Trail
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17. Lee, Collier, and Hendry Counties

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18. Palm Beach, Broward, Miami-Dade, and Monroe Counties

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